

CLAIMS

- 1 1. In a level meter employing the radar principle for measuring the fill-level of a
2 medium in a container, with a signal generator for generating and transmitting an elec-
3 tromagnetic signal, an electrical conductor assembly for feeding the electromagnetic sig-
4 nal emanating from the signal generator into the container and returning the portion of the
5 electromagnetic signal reflected by the medium in the container, and an electronic
6 evaluation unit that serves to receive the portion of the electromagnetic signal reflected
7 by the medium in the container and to determine the run time of said signal and thus the
8 fill level of the medium in the container the improvement wherein, differentiated from the
9 conductor assembly, a transducer is provided for the purpose of measuring another physi-
10 cal variable.
- 1 2. The level meter as in claim 1, wherein the transducer is provided for temperature,
2 pressure or conductivity measurements.
- 1 3. The level meter as in claim 1 or 2, and further including a data transfer interface
2 for the output of the additional physical variable detected by the transducer.
- 1 4. The level meter as in claim 1 or 2, wherein the transducer is mounted on the con-
2 ductor assembly preferably in detachable fashion.
- 1 5. The level meter as in claim 1 or 2, wherein the conductor assembly is in the form
2 of a single-conductor unit, preferably a conductor tube or conductor cable, and an insu-
3 lated inner conductor leading to the transducer extends within the single-conductor unit.
- 1 6. The level meter as in claim 5, wherein the single-conductor unit is in the form of a
2 feed line leading to the transducer, making possible a data and/or power transfer via said
3 single-conductor unit from or to the transducer, and the electromagnetic signal emanating
4 from the signal generator can be capacitively coupled into the single-conductor unit.

1 7. The level meter as in claim 5, wherein the inner conductor, insulated from and
2 extending within the single-conductor unit, leads to the transducer and serves as a refer-
3 ence-potential connection and preferably as an instrument-ground connection.

1 8. The level meter as in claim 1 or 2, wherein the conductor assembly is configured
2 as a twin-conductor unit with two conductors; preferably as a parallel or a coaxial line,
3 one of the conductors is in the form of a feed line leading to the transducer so that by way
4 of the conductor serving as the feed line to the transducer a data and/or power transfer is
5 possible from or to the transducer, and that the electromagnetic signal generated by the
6 signal generator can be coupled into the conductor serving as the feed line to the trans-
7 ducer.

1 9. The level meter as in claim 8, wherein, differentiated from the conductor serving
2 as the feed line to the transducer, the conductor serves as the reference-potential connec-
3 tion and preferably as the instrument-ground connection.

1 10. The level meter as in claim 1 or 2, and further including a weight in the end re-
2 gion of the conductor assembly, said transducer being positioned on or in said weight.

1 11. The level meter as in claim 1 or 2, and further including an additional fill-level
2 analyzer which the additional physical variable detected by the transducer can be fed, and
3 wherein, on the basis of the additionally detected physical variable, an alternative fill-
4 level determination can be made.

1 12. The level meter as in claim 11, and further including a test unit which can receive
2 both the fill-level information determined by the radar-type measurement and the fill-
3 level information determined by the alternative fill-level measurement based on the addi-
4 tional physical variable and by means of which the two fill-level values can be compared
5 for testing the reliability of the radar-type fill-level measurement.